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## **CLAIMS**

1. Use of an organophosphonate having the general formula (I):

5 wherein

 $Z = -CHR_1PO_1R_2$ 

R = H,  $CH_3$ ,  $C_2H_5$  or M

 $R^{1} = H, CH_{3}, CR_{3}, C_{6}H_{5}, or SO_{3}H_{2}$ 

M = alkali metal or ammonium ion

10 n = 0 to 10

m = 0 to 10

a = 0 to 10

 $b = 0 \text{ to } 10^{\circ}$ 

c = 0 or 1

15 x = 0 to 10

y = 0 to 10

to inhibit white rust corrosion in water using systems.

2. Use as claimed in Claim 1, in which R and R<sup>1</sup> each = H, n = 6, m
20 = 6, c = 1, y = 0 whereby the compound is
bis(hexamethylene)triamine-pentakis (methylene phosphonic acid), as in
formula (II):

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$$Z_2 N- (CH_2)_6 - N-(CH_2)_6 - NZ_3$$
 (II)

$$Z = CH_2 PO_3 H_2$$

- 3. Use of a random copolymer of vinylidene diphosphonic acid and vinyl sulphonic acid in a molar ratio of between 1:1 and 1:500 to inhibit white corrosion in water using systems.
- 4. A compound as claimed in Claim 3, in which the molar ratio is 1:100 molar.
- 5. Use as claimed in Claim 3 or Claim 4, in which the molar ratio is 1:20 molar.
  - 6. Use of a composition comprising a phosphonated oligomer of formula (I) as defined in Claim 1 or a random copolymer of vinylidene diphosphonic acid and vinyl sulphonic acid in a molar ratio of between 1:1 and 1:500, together with additives conventionally used in the water treatment industry to inhibit white rust corrosion in water using systems.
- 7. Use as claimed in Claim 6 in which the additives are selected from the group consisting of phosphonocarboxylic acids or salts and dispersants.
  - 8. Use as claimed in Claim 7 in which the dispersant is a polyacrylate.
- 25 9. A composition as claimed in any one of Claims 6 to 8 in which the composition comprises a biocide.

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10. Use as claimed in any one of Claims 6 to 9 in which the phosphonocarboxylic acid or salt is a phosphonated oligomer of maleic acid, of general formula (III):

5 H[CHCO, MCHCO, M], PO, M,

(III)

wherein M is a cation such that the oligomer is soluble in water, and n is greater than 1.

- 10 11. Use as claimed in any one of Claims 6 to 9, in which the polyacrylate compound is a low molecular weight polymer having a molecular weight between 2000 to 5000.
- 12. A method for inhibiting corrosion in, or in connection with, a water-using system, said method consisting of the application or addition to said system of an effective amount of a phosphonated oligomer of formula (I) as defined in Claim 1 or a random copolymer of vinylidene diphosphonic acid and vinyl sulphonic acid in a molar ratio of between 1:1 and 1:500 or of a composition comprising a phosphonated oligomer of formula (I) as defined in Claim 1 or a random copolymer of vinylidene diphosphonic acid and vinyl sulphonic acid in a molar ratio of between 1:1 and 1:500, together with additives conventionally used in the water treatment industry to inhibit white rust corrosion in water using systems..
- 25 13. A method as claimed in Claim 12 in which the method consists of the application to a metal prior to contact with water of an effective amount of the phosphonated oligomer or the random copolymer of vinylidene diphosphonic acid and vinyl sulphonic acid or of the composition.

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- 14. A method as claimed in Claim 12 or 13, in which the oligomer or copolymer is used in an effective amount of up to 1000 ppm.
- 15. A method as claimed in Claims 12 to Claim 14, in which the oligomer or copolyme is used in an effective amount of up to 250 ppm.
  - 16. A method as claimed in any one of Claims 12 to 15 in which the oligomer or copolymer is used in an effective amount of up to 100 ppm.

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